effecting a minimally dispersive separation of the analytical sample with the chromatographic column to yield a high molecular weight fraction;

determining a polymer concentration in the high molecular weight fraction using the concentration detector;

determining the molar mass in the high molecular weight fraction using the molar mass detector; and

deriving an average molecular weight from the polymer concentration and the molar mass;

wherein the total analysis time is not greater than about 5 minutes per sample.

5.   The method of claim 1, wherein the dihydric phenol is selected from the group consisting of 2,2-bis-(4-hydroxyphenyl)propane; hydroquinone; resorcinol; 2,2-bis-(4-hydroxyphenyl)pentane; 2,4'-dihydroxydiphenylmethane; bis-(2-hydroxyphenyl)methane; bis-(4-hydroxyphenyl)methane; bis-(4-hydroxy-5-nitrophenyl)methane; 1,1-bis-(4-hydroxyphenyl)ethane; 3,3-bis-(4-hydroxyphenyl)pentane; 2,2'-dihydroxydiphenyl; 2,6-dihydroxynapthylene; bis-(4-hydroxyphenyl)sulfone; 2,2'-dihydroxydiphenylsulfone; 4,4'-dihydroxydiphenylether; 4,4'-dihydroxy-2,5-diethoxydiphenylether; and 1,1-bis(3-methyl-4-hydroxyphenyl)cyclohexane.

6.   The method of claim 4, wherein the analytical sample comprises the polymer reaction product in a suitable solvent.

28.   A method for the determination of polymer molecular weight, comprising:

providing a sample array comprising a plurality of spatially differentiated sites, each site comprising a polymer resin reaction product of a diphenyl carbonate and a dihydric phenol;

preparing an analytical sample for each spatially differentiated site by dissolving the polymer resin reaction product in a suitable solvent;

injecting a known amount of each analytical sample into a flow analysis system comprising a chromatographic column, a concentration detector, and a molar mass detector;

effecting a minimally dispersive separation of each analytical sample with the chromatographic column to yield a high molecular weight fraction substantially free of monomers;

determining a polymer concentration in the high molecular weight fraction of each analytical sample using the concentration detector;

determining the molar mass in the high molecular weight fraction of each analytical sample using the molar mass detector; and

deriving an average molecular weight for each analytical sample based on the polymer concentration and the molar mass;

wherein the total analysis time is not greater than about 5 minutes per sample.

31.   A system for the determination of polymer average molecular weight, comprising:

a solvent delivery system;

an autoinjector for injecting a known volume of an analytical sample comprising a polymer reaction product of a diphenyl carbonate and a dihydric phenol;

a chromatographic column for effecting a minimally dispersive separation of the analytical sample to yield a high molecular weight fraction substantially free of monomers;